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IN THE CLAIMS:

1.(original) A laser monitoring system, comprising:

a spectrometer meter adapted to measure an unknown bandwidth of a spectrum of light emitted from the laser, comprising:

an optical bandwidth measuring unit adapted to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing unit adapted to compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known valued of RP.

2. (original) The apparatus of claim 1 further comprising:

the optical bandwidth measuring unit comprises an interferometric or dispersive optical instrument.

3. (original) The apparatus of claim 1 further comprising:

the optical bandwidth measuring unit comprises an etalon.

4. (original) The apparatus of claim 2 further comprising:

the optical bandwidth measuring unit comprises an etalon.

5. (original) The apparatus of claim 1 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

6. (original) The apparatus of claim 2 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

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7. (original) The apparatus of claim 3 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

8. (original) The apparatus of claim 4 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

9. (original) The apparatus of claim 1 further comprising:

RP is at EX% and MP is at FWXM.

10. (original) The apparatus of claim 2 further comprising:

RP is at EX% and MP is at FWXM.

11. (original) The apparatus of claim 3 further comprising:

RP is at EX% and MP is at FWXM.

12. (original) The apparatus of claim 4 further comprising:

RP is at EX% and MP is at FWXM.

13. (original) A spectrometer for measuring an unknown bandwidth of a spectrum of light, comprising:

an optical bandwidth measuring unit adapted to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing unit adapted to compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known valued of RP.

14. (original) The apparatus of claim 13 further comprising:

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the optical bandwidth measuring unit comprises an interferometric or dispersive optical instrument.

15. (original) The apparatus of claim 13 further comprising:
the optical bandwidth measuring unit comprises an etalon.
16. (original) The apparatus of claim 14 further comprising:
the optical bandwidth measuring unit comprises an etalon.
17. (original) The apparatus of claim 13 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
18. (original) The apparatus of claim 14 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
19. (original) The apparatus of claim 15 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
20. (original) The apparatus of claim 16 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
21. (original) The apparatus of claim 13 further comprising:
RP is at EX% and MP is at FWXM.
22. (original) The apparatus of claim 14 further comprising:
RP is at EX% and MP is at FWXM.
23. (original) The apparatus of claim 15 further comprising:
RP is at EX% and MP is at FWXM.
24. (original) The apparatus of claim 16 further comprising:

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RP is at EX% and MP is at FWXM.

25. (original) A laser control system, comprising:

spectrometer means for measuring an unknown bandwidth of a spectrum of light emitted from the laser, comprising:

an optical bandwidth measuring means for providing as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing means for computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known valued of RP.

26. (original) The apparatus of claim 25 further comprising:

the optical bandwidth measuring means comprises an interferometric or dispersive optical instrument.

27. (original) The apparatus of claim 25 further comprising:

the optical bandwidth measuring means comprises an etalon.

28. (original) The apparatus of claim 26 further comprising:

the optical bandwidth measuring means comprises an etalon.

29. (original) The apparatus of claim 25 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

30. (original) The apparatus of claim 26 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

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31. (original) The apparatus of claim 27 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

32. (original) The apparatus of claim 28 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

33. (original) The apparatus of claim 25 further comprising:

RP is at EX% and MP is at FWXM.

34. (original) The apparatus of claim 26 further comprising:

RP is at EX% and MP is at FWXM.

35. (original) The apparatus of claim 27 further comprising:

RP is at EX% and MP is at FWXM.

36. (original) The apparatus of claim 28 further comprising:

RP is at EX% and MP is at FWXM.

37. (original) A spectrometer for measuring an unknown bandwidth of a spectrum of light, comprising:

an optical bandwidth measuring means for providing as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

a reported parameter computing means for compute a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

Reported Parameter ("RP") = $A * (\text{Measured Parameter ("MP")}) + C$,

wherein the RP and MP are different types or parameters and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known valued of RP.

38. (original) The apparatus of claim 37 further comprising:

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the optical bandwidth measuring means comprises an interferometric or dispersive optical instrument.

39. (original) The apparatus of claim 37 further comprising:
the optical bandwidth measuring means comprises an etalon.

40. (original) The apparatus of claim 38 further comprising:
the optical bandwidth measuring means comprises an etalon.

41. (original) The apparatus of claim 37 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

42. (original) The apparatus of claim 38 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

43. (original) The apparatus of claim 39 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

44. (original) The apparatus of claim 40 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

45. (original) The apparatus of claim 37 further comprising:
RP is at EX% and MP is at FWXM.

46. (original) The apparatus of claim 38 further comprising:
RP is at EX% and MP is at FWXM.

47. (original) The apparatus of claim 39 further comprising:
RP is at EX% and MP is at FWXM.

48. (original) The apparatus of claim 40 further comprising:

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RP is at EX% and MP is at FWXM.

49. (currently amended) A method for controlling a laser, comprising:

utilizing a spectrometer means for measuring an unknown bandwidth of a spectrum of light emitted from the laser, by:

providing a measurement of a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

Reported Parameter ("RP") = A * (Measured Parameter ("MP")) + C,

wherein the RP and MP are a different type of parameter and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known valued of RP[[:]] [:]

providing an output representative of the RP to a laser system controller;

utilizing the signal to control an aspect of laser operation.

50. (original) The method of claim 49 further comprising:

utilizing an interferometric or dispersive optical instrument for measuring the optical bandwidth.

51. (original) The method of claim 49 further comprising:

utilizing an etalon for measuring the optical bandwidth.

52. (original) The apparatus of claim 50 further comprising:

utilizing an etalon for measuring the optical bandwidth.

53. (original) The method of claim 49 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

54. (original) The method of claim 50 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

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55. (original) The method of claim 51 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

56. (original) The method of claim 52 further comprising:

RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.

57. (original) The method of claim 49 further comprising:

RP is at EX% and MP is at FWXM.

58. (original) The method of claim 50 further comprising:

RP is at EX% and MP is at FWXM.

59. (original) The method of claim 51 further comprising:

RP is at EX% and MP is at FWXM.

60. (original) The method of claim 52 further comprising:

RP is at EX% and MP is at FWXM.

61. (currently amended) A method for measuring an unknown bandwidth of a spectrum of light, comprising:

utilizing an optical bandwidth measuring means to provide as an output a measured parameter, which is indicative of a parameter of the unknown bandwidth of the spectrum being measured;

computing a reported parameter of the unknown bandwidth of the spectrum being measured according to the formula:

$$\text{Reported Parameter ("RP")} = A * (\text{Measured Parameter ("MP")}) + C,$$

wherein the RP and MP are different types or parameters and the values of A and C are determined based upon calibration of the optical bandwidth measuring unit MP response for light of known value of RP [I-] [I];

providing an output representative of the RP to a laser system controller;

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utilizing the signal to control an aspect of laser operation.

62. (original) The method of claim 61 further comprising:
utilizing an interferometric or dispersive optical instrument to provide the optical bandwidth measurement.
63. (original) The method of claim 61 further comprising:
utilizing an etalon to provide the optical bandwidth measurement.
64. (original) The method of claim 62 further comprising:
utilizing an etalon to provide the optical bandwidth measurement.
65. (original) The method of claim 61 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
66. (original) The apparatus of claim 62 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
67. (original) The apparatus of claim 63 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
68. (original) The apparatus of claim 64 further comprising:
RP is at FWXM and MP is at FWX'M, wherein $X \neq X'$.
69. (original) The apparatus of claim 61 further comprising:
RP is at EX% and MP is at FWXM.
70. (original) The apparatus of claim 62 further comprising:
RP is at EX% and MP is at FWXM.
71. (original) The apparatus of claim 63 further comprising:

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RP is at EX% and MP is at FWXM.

72. (original) The apparatus of claim 64 further comprising:

RP is at EX% and MP is at FWXM.